OTHER STUDIES DISCUSSING LUNG CANCER

In addition to the primary lung cancer studies discussed in Section A of this notebook, there are several other studies which are sometimes mentioned in the context of epidemiologic studies on ETS and lung cancer. Because these studies are methodologically flawed or report incomplete data, they are of limited usefulness. For instance, the earlier studies (e.g., Knoth, et al., 1983; Miller, 1984; Sandler, et al., 1985) were excluded from the Letzel and Überla meta-analysis (1990), and even from the meta-analyses conducted by the National Academy of Sciences in 1986 and by the Environmental Protection Agency in 1990.

Following are brief summaries of each of these studies, focusing on their problems. Copies of these studies follow this introduction, arranged in chronological order and highlighted in yellow for useful information and in blue for adverse information.

Knoth, et al., 1983.

- This German study included a total of 792 lung cancer patients. There was no control population for comparison, and thus, the authors' conclusions are of limited value.[1]

- One reviewer commented that this report contained "only tentative conclusions based on poor data analyzed by

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unacceptable methods."[2]

Sandler, et al., 1985

- Although the papers published by Sandler, et al., in 1985 focused on overall mortality, some numbers of lung cancer deaths were presented.[3]

- The methodology and interpretation of these studies have been heavily criticized (e.g., one scientist described the studies as "heavily flawed").[4] The data presented are of limited value.

Dalager, et al., 1986.

- Data from three case-control studies conducted in the United States under the auspices of the National Cancer Institute were combined and analyzed in this study.[5] (Two of the studies, Correa, et al., and Buffler, et al., were discussed in Section A of this notebook.)

- Because the Dalager paper includes two primary studies on ETS and lung cancer, if it were included in considerations of the epidemiologic studies, it would result in some data being "counted" twice.

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Lloyd, et al., 1986.

- In a study investigating the high rate of lung cancer in one town in Scotland, relatives of 42 cases who had died of lung cancer and of 42 matched controls who had died of other causes were interviewed.[6]

- Conclusions about ETS exposure were based on smokers and nonsmokers combined, thus precluding comparisons to the primary studies cited in Section A of this notebook. However, the authors reported no statistically significant differences between cases and controls for any questions relative to personal smoking or to ETS.

Katada, et al., 1988.

- This study, using hospitalized individuals in Nara, Japan, included only 25 female lung cancer cases (some of whom were smokers) and 50 female controls.[7]

- All of the cases reported present exposure to ETS, all but two reported past exposure, and all but four reported childhood exposure. Thus, the reference categories (i.e., non-exposed women) are too small to allow appropriate calculations of relative risk.

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- Nevertheless, none of the case-control comparisons was statistically significant at the 5% level. (Note: the paper also bases some of its conclusions on nonsmokers and smokers combined.)

Lam and Cheng, 1988

- This paper reviews four lung cancer studies previously conducted in Hong Kong, all of which are presented in the Primary Studies section of this notebook.[8]

- Using meta-analysis, Lam and Cheng calculate a statistically significant summary point estimate for the four studies.

Chen, et al., 1990

- In 1990, conclusions based on a study of 332 cases and 635 group-matched hospital controls in Taiwan were published.[9]

- For ETS exposure, point estimates achieving statistical significance were reported; however, it appears that these point estimates were calculated using <u>both</u> nonsmokers <u>and</u> active smokers, and are thus not comparable with other studies of nonsmokers only.

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Miller, 1990.

- Miller used newspaper death notices to ascertain cancer deaths in women in northwestern Pennsylvania, and then interviewed surviving next-of-kin to obtain information on the deceased women. This approach could be expected to result in problems related to accurate recall by those interviewed.[10]

- In a 1984 paper, Miller examined "all cancer deaths" (See Other Cancers section in this notebook); in the 1990 paper, he provides numbers of cancer deaths by site.

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